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**From:** Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]  
**Sent:** 10/11/2019 11:16:39 AM  
**To:** Gillespie, Andrew [Gillespie.Andrew@epa.gov]; McCord, James [mccord.james@epa.gov]  
**CC:** Medina-Vera, Myriam [Medina-Vera.Myriam@epa.gov]  
**Subject:** RE: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

We and NCSU have standards for all of these analytes now from Chemours. Three of them (Nafion BP2, PFMOAA and PFPrOPrA (HFPO-DA)) can be purchase solid from an alternate source.

Mark

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**From:** Gillespie, Andrew <Gillespie.Andrew@epa.gov>  
**Sent:** Thursday, October 10, 2019 5:00 PM  
**To:** Strynar, Mark <Strynar.Mark@epa.gov>; McCord, James <mccord.james@epa.gov>  
**Cc:** Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>  
**Subject:** RE: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

Thanks. Can you remind me, do we now have standards for all of the PFEAs?

I thought we did not yet have those, that the estimates were semiquantative.

Andrew J. R. Gillespie, Ph. D.  
Associate Director, US EPA/ORD/CEMM  
ORD Executive Lead for PFAS R&D

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**From:** Strynar, Mark <Strynar.Mark@epa.gov>  
**Sent:** Thursday, October 10, 2019 3:15 PM  
**To:** Gillespie, Andrew <Gillespie.Andrew@epa.gov>; McCord, James <mccord.james@epa.gov>  
**Cc:** Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>  
**Subject:** RE: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

Sorry I sent you the paper. Here is the link.

<https://pubs.acs.org/doi/10.1021/acs.estlett.9b00525>

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**From:** Gillespie, Andrew <Gillespie.Andrew@epa.gov>  
**Sent:** Thursday, October 10, 2019 3:07 PM  
**To:** McCord, James <mccord.james@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>  
**Cc:** Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>  
**Subject:** FW: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

Can one of you send me a link to the published paper? Thanks, Andy

Andrew J. R. Gillespie, Ph. D.  
Associate Director, US EPA/ORD/CEMM  
ORD Executive Lead for PFAS R&D

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**From:** Hines, Ronald <[Hines.Ronald@epa.gov](mailto:Hines.Ronald@epa.gov)>  
**Sent:** Thursday, October 10, 2019 2:43 PM  
**To:** Rodan, Bruce <[rodan.bruce@epa.gov](mailto:rodan.bruce@epa.gov)>; Gillespie, Andrew <[Gillespie.Andrew@epa.gov](mailto:Gillespie.Andrew@epa.gov)>; Dunlap, David <[dunlap.david@epa.gov](mailto:dunlap.david@epa.gov)>  
**Cc:** Cascio, Wayne <[Cascio.Wayne@epa.gov](mailto:Cascio.Wayne@epa.gov)>; Holt, Kay <[Holt.Kay@epa.gov](mailto:Holt.Kay@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Russo, Bill <[Russo.Bill@epa.gov](mailto:Russo.Bill@epa.gov)>  
**Subject:** FW: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

I assume you saw the paper cited in the article shared by Erin below, as it must have gone through advance notification. But, I thought you might like to see the new article itself.

Ron

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**From:** Hines, Erin <[Hines.Erin@epa.gov](mailto:Hines.Erin@epa.gov)>  
**Sent:** Thursday, October 10, 2019 2:09 PM  
**To:** Hines, Ronald <[Hines.Ronald@epa.gov](mailto:Hines.Ronald@epa.gov)>; Gray, Earl <[Gray.Earl@epa.gov](mailto:Gray.Earl@epa.gov)>; Conley, Justin <[Conley.Justin@epa.gov](mailto:Conley.Justin@epa.gov)>; Wilson, Vickie <[Wilson.Vickie@epa.gov](mailto:Wilson.Vickie@epa.gov)>; Lau, Chris <[Lau.Christopher@epa.gov](mailto:Lau.Christopher@epa.gov)>  
**Cc:** Lambright, Christy <[Lambright.Christy@epa.gov](mailto:Lambright.Christy@epa.gov)>; Evans, Nicola <[Evans.Nicola@epa.gov](mailto:Evans.Nicola@epa.gov)>; Dixon, Aaron <[Dixon.Aaron@epa.gov](mailto:Dixon.Aaron@epa.gov)>; Rogers, John M. <[Rogers.John@epa.gov](mailto:Rogers.John@epa.gov)>  
**Subject:** RE: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

130,000 ppt

<http://pulse.ncpolicywatch.org/2019/10/09/breaking-new-analysis-indicates-that-toxics-were-present-in-wilmington-drinking-water-at-extreme-levels/>

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**From:** Hines, Ronald <[Hines.Ronald@epa.gov](mailto:Hines.Ronald@epa.gov)>  
**Sent:** Thursday, October 10, 2019 1:51 PM  
**To:** Gray, Earl <[Gray.Earl@epa.gov](mailto:Gray.Earl@epa.gov)>; Conley, Justin <[Conley.Justin@epa.gov](mailto:Conley.Justin@epa.gov)>; Wilson, Vickie <[Wilson.Vickie@epa.gov](mailto:Wilson.Vickie@epa.gov)>; Lau, Chris <[Lau.Christopher@epa.gov](mailto:Lau.Christopher@epa.gov)>  
**Cc:** Hines, Erin <[Hines.Erin@epa.gov](mailto:Hines.Erin@epa.gov)>; Lambright, Christy <[Lambright.Christy@epa.gov](mailto:Lambright.Christy@epa.gov)>; Evans, Nicola <[Evans.Nicola@epa.gov](mailto:Evans.Nicola@epa.gov)>; Dixon, Aaron <[Dixon.Aaron@epa.gov](mailto:Dixon.Aaron@epa.gov)>; Rogers, John M. <[Rogers.John@epa.gov](mailto:Rogers.John@epa.gov)>  
**Subject:** RE: ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

Earl,

Thanks for the information. Do you know what units are being used? Also, I learned that before Chemours provided an authentic standard for nafion by-product 2, GenX was used as a standard assuming the signal

would be the same for all PFAS. Because of this, the uncertainty around these numbers were 10-fold on either side.

Ron

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**From:** Gray, Earl <Gray.Earl@epa.gov>

**Sent:** Thursday, October 10, 2019 1:40 PM

**To:** Conley, Justin <Conley.Justin@epa.gov>; Wilson, Vickie <Wilson.Vickie@epa.gov>; Lau, Chris <Lau.Christopher@epa.gov>

**Cc:** Hines, Ronald <Hines.Ronald@epa.gov>; Hines, Erin <Hines.Erin@epa.gov>; Lambright, Christy <Lambright.Christy@epa.gov>; Evans, Nicola <Evans.Nicola@epa.gov>; Dixon, Aaron <Dixon.Aaron@epa.gov>; Rogers, John M. <Rogers.John@epa.gov>

**Subject:** ARCHIVED CAPE FEAR RIVER SAMPLES REVEAL HIGH LEVELS OF PFAS JUST PUBLISHED, DONT HAVE PAPER YET

PFEAs	PFMOAA	110,000	95,000
	PFO2HxA	7,800	8,200
	PFO3OA	6,300	7,000
	PFO4DA	350	330
	PFO5DoA	200	153
	PMPA	690	740
	PEPA	200	280
	PFPrOPrA	780	790
	Nafion by-product 2	83	<10
	NVHOS	19	<10
	HydroEVE	20	<10
	$\Sigma$ PFEAs	130,000	110,000
$\Sigma$ (all targeted PFASs)		130,000	110,000

*These samples were collected in 2015 from near Lock and Dam No. 1, near Wilmington. The first column indicates the concentrations for the compounds before researchers applied a chemical process called oxidization. The second column shows the concentrations after oxidization, which was applied in 2019 to the samples, which had been preserved.*

PFEAs	PFMOAA	730,000	710,000
	PFO2HxA	180,000	190,000
	PFO3OA	58,000	61,000
	PFO4DA	5,100	4,600
	PFO5DoA	330	290
	PMPA	1,300	1,000
	PEPA	420	500
	PFPrOPrA	3,100	3,000
	Nafion by-product 2	670	<10
	NVHOS	44	<10
	HydroEVE	1,200	<10
<b>ΣPFEAs</b>		<b>990,000</b>	<b>960,000</b>

*These samples were collected in 2014 from near the Huske Lock and Dam near the Chemours facility. The first column indicates the concentrations for the compounds before researchers applied a chemical process called oxidization. The second column shows the concentrations after oxidization, which was applied in 2019 to the samples, which had been preserved.*